

We claim:

1. A system for queuing data for transmission by a modem comprising:
first queues for queuing received data from a plurality of data streams;
at least one queue selection entity for selecting data from the first queues;
second queues for queuing data from the at least one queue selection entity; and
a queue server for assembling data from the second queues for transmission by the modem.
2. The system of claim 1 wherein the first queues comprise a plurality of groups of data queues and wherein the at least one queue selection entity comprises a plurality of queue selection entities, each queue selection entity corresponding to one group of data queues and wherein each queue selection entity selects data from the corresponding group of data queues.
3. The system of claim 1 wherein the first queues are input queues for receiving data within a control microprocessor.
4. The system of claim 1 wherein the second queues are modem queues.
5. The system of claim 3 wherein the queue server is a modem queue server.
6. The system of claim 1 wherein the assembled data is assembled into packets suitable for transmission using time division multiplexing.
7. The system of claim 1 further comprising an idle queue associated with at least one modem queue for providing idle data when the modem queue is empty.
8. The system of claim 5 wherein the idle data of the idle queue is configurable.

9. The system of claim 1 wherein the plurality of data streams contain data have a common format.
10. The system of claim 1 wherein the format of the data in at least two of the plurality of data streams are different from each other.
11. The system of claim 10 wherein the assembled data includes data from each of the at least two different data formats.
12. The system of claim 10 wherein the assembled data is for transmission in a time division multiplexing time slot.
13. The system of claim 1 further comprising a slot processor for providing timing information to the queue server.
14. The system of claim 13 wherein the slot processor includes a burst time plan table from which the timing information is derived.
15. The system of claim 1 further comprising a timing controller for controlling the transmission of the data from the queue server and a timing reference providing a time source to the timing controller.
16. A system for queuing data received by a modem comprising:
 - a queue server for disassembling data received by the modem;
 - a plurality of first queues for queuing the disassembled data;
 - a plurality of second queues; and
 - at least one queue selection entity for receiving data from the first queues and queuing the data to the second queues.

17. The system of claim 16 wherein the plurality of second queues comprises a plurality of groups of second queues and wherein the at least one queue selection entity comprises a plurality of queue selection entities corresponding to the number of groups of second queues and wherein each queue selection entity queues data to the queues of a corresponding group of second queues.
18. A method of queuing data for transmission by a modem comprising:
selecting data from each of a plurality of group of first queues;
queuing the selected data into a plurality of second queues;
selecting data from the data queued in the second queues; and
assembling the selected data element from the second queues for transmission by the modem.
19. The method of claim 18 further comprising the preliminary step of queuing data in the plurality of groups of first queues.
20. A method of queuing data received in a modem comprising:
disassembling the received data;
queuing the disassembled data to a plurality of first queues;
retrieving data from the plurality of first queues; and
queuing the retrieved data to a plurality of groups of second queues.